



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
Carlsbad Fish and Wildlife Office
6010 Hidden Valley Road
Carlsbad, California 92009



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MCAS EL TORO
SSIC NO. 5090.3

In Reply Refer To:
FWS-OR-3585.1

AUG 04 2003

Mr. Andy Piszkin
BRAC Environmental Coordinator
Department of the Navy
Southwest Division
Naval Facilities Engineering Command
1220 Pacific Highway
San Diego, California 92132-5190

Attn: Karnig Ohannessian

Re: Draft Screening Ecological Risk Assessment, Removal Site Evaluation, Anomaly Area 3,
Former Marine Corps Air Station, (MCAS) El Toro, California

Dear Mr. Piszkin:

The U.S. Fish and Wildlife Service (Service) appreciates the opportunity to review the "Draft Screening Ecological Risk Assessment, Removal Site Evaluation, Anomaly Area 3, Former Marine Corps Air Station (MCAS) El Toro, California." Anomaly Area 3 (AA 3) was historically used as a source of borrow material. Some areas were backfilled with construction debris and subsequently covered with approximately 3-5 feet of fill soil. Also, additional construction debris generated during the construction of the investigation derived waste (IDW) management area at Installation Restoration Program (IRP) Site 3 was also disposed of at Site AA 3.

General Comments

Overall, we agree that based on the Screening Ecological Risk Assessment (SERA) a Baseline Ecological Risk Assessment (BERA) is warranted for Site AA 3. Model assumptions and calculations included in the document to support the conclusions reached in the SERA were helpful in reviewing the document. Our specific comments regarding the SERA are provided below.

Specific Comments

Appendix B, Page 2. We agree as acknowledged in the biological site reconnaissance (BSR) report that a single midwinter survey conducted to determine the species inventory for Site AA 3 is not likely to have captured all of the ecological receptors and representative feeding guilds

present on site. Migratory birds may not be present at the site, plants may not be identifiable, and animals may be inactive at this time of the year. For your reference, we have attached a list of species observed on the former MCAS El Toro during a 1993 survey effort by the Service (U.S. Fish and Wildlife Service 1993). As discussed later in this letter, this list includes species such as the loggerhead shrike (*Lanius ludovicianus*), which occupies a higher trophic level and should be evaluated as a potential receptor.

Pages 3-7 and 3-8. We support the use of chemicals of potential ecological concern (COPECs) detected in surface soils at a depth of 0-1 foot below ground surface (bgs) in the ecological risk assessment. However, it is inappropriate to eliminate chemicals detected at depths greater than 1 foot bgs when evaluating COPECs for the SERA when ecological receptors occurring at Site AA 3 can burrow vertically to greater depths. For example, the California ground squirrel (*Spermophilus beecheyi*), known to occur on-site, can burrow up to depths of five feet (California Department of Toxic Substances Control [DTSC] 1998). In addition to the biotic zone, contaminants present at the depth profile to which species at the site may burrow should also be evaluated in the SERA. Please refer to the DTSC's recommended depths for soil sampling to set exposure point concentration for burrowing mammals and burrow-dwelling birds in an ecological risk assessment (California DTSC 1998).

Page 3-7. Based on the disposal history and the uncertainty of the wastes disposed at Site AA 3, we recommend that polychlorinated biphenyls (PCBs), and herbicides/pesticides be included in the list of COPECs selected for evaluation the SERA. Site 3 was a former landfill. Reported wastes that could potentially be found in the Site 3 landfill include metals, incinerator ash, solvents, paint residues, hydraulic fluids, engine coolants, construction debris, oily wastes, and municipal solid wastes (U.S. Marine Corps 1999).

Page 3-9. Table 3-3. The unit of concentration for dioxins given in the table is "pg/g"; however, the footnote defines the unit of concentration as picograms per kilograms (pg/kg). The unit identified in the footnote should be consistent with the unit provided in the table.

Page 3-10. Table 3-4 describes the assessment endpoint for mammals and birds as a decline in mammal populations and decline in local bird populations, respectively. Please explain the use of this assessment endpoint for mammals and birds when decrease in growth and reproduction was used as an assessment endpoint for invertebrates. The coastal California gnatcatcher (*Polioptila californica californica*) is a federally threatened species and is present at the site. In order to assess risk to the gnatcatcher, we recommend using individual-level endpoints (e.g., feeding behavior, survival, growth, and/or reproduction), rather than population-level endpoints (decline in local bird populations).

Page 3-12. The following types of ecological receptors and feeding guilds are present at the former El Toro MCAS: terrestrial plants, soil invertebrates, reptiles, amphibians, terrestrial mammals (herbivores, omnivores, and carnivores), and terrestrial birds (herbivores, omnivores, and carnivores). Representative species or taxa should be evaluated as target receptors from each guild for the SERA. The Service agrees that the selected species for the SERA represent the two

feeding guilds for omnivorous mammals and omnivorous birds for the site. We recommend that other target receptors be included to represent additional potentially exposed feeding guilds and higher trophic levels likely present at the site. For example, carnivorous birds, such as the logger head shrike present at El Toro MCAS likely inhabits the Site AA 3. The shrike is a top predator and can devour large insects, reptiles, small mammals, and birds and would be an appropriate species to represent upper trophic receptors. Likewise, risk to other potentially exposed feeding guilds such as herbivorous and carnivorous mammals should also be evaluated in the SERA. The California ground squirrel is primarily a herbivorous mammal that can burrow to a depth greater than five feet and should be evaluated as a target receptor exposed to contaminants in deeper soils. Please consider expanding the target receptors to evaluate risk to all feeding guilds and higher trophic levels that have potentially complete pathways of exposure to contaminants at the site.

Page 3-17. Figure 3-1 identifies the subsurface soil as an incomplete pathway. The subsurface soil pathway should be identified as a complete pathway for certain ecological receptors. As stated above, burrowing mammals may come in contact with and be exposed to COPECs in subsurface soils.

Page 4-1. It is stated that maximum surface soil concentrations of aluminum, chromium, lead, selenium, vanadium, and zinc exceed plant and invertebrate screening concentrations. The Hazard Quotients (HQ) for these chemicals are greater than one and may potentially have an adverse effect on ecological receptors. It is further stated that eleven semivolatile organic compounds (SVOCs) and dioxins detected in surface soil did not have screening benchmarks for plants and invertebrates. Table 4-1 lists thirteen SVOCs that did not have screening benchmark concentrations. Please revise and add a sentence to clarify that the potential risks posed by certain SVOCs and dioxins are unknown for plants and invertebrates due to lack of relevant effects levels.

Table A-3. Preliminary Remediation Goals (PRGs) are human health risk-based concentrations; therefore, PRGs are not appropriate for ecological receptors.

Table B-2. Status of the coastal California gnatcatcher should be identified as federally threatened.

Appendix C-3. In addition to soil to earthworm bioconcentration factors (BCF) from Beyer and Stafford (1993), BFCs from additional peer reviewed references should be considered for use in Appendix C. The soil-to-earthworm uptake factors for cadmium, lead, chromium, and dioxins may be as high as 190, 228.26, 11.42, and 42.07, respectively (Sample et al. 1999). The mean soil-to-earthworm uptake factors for cadmium, lead, chromium, and dioxins in earthworms reported by Sample et al. (1999) are 17.10, 3.34, 1.10, and 11.74. Median soil-to-earthworm uptake factors for cadmium and 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) reported by Sample et al. (1999) are 7.71 and 11.01, respectively. The lower BCFs used in Appendix C-3 for some of the metals and dioxins may underestimate the risk to ecological receptors at Site AA 3. At a minimum, the higher median BCFs reported in the literature should be used in the SERA.

Mr. Andy Piszkin (FWS-OR-3585.1)

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The Service appreciates the Navy's efforts to avoid impacts to listed species during the remedial investigation and ecological risk assessment for Site AA 3. We look forward to discussing these comments with the Navy and the continuation of our joint effort to reduce risk to ecological receptors at Site AA 3. If you have any questions regarding these comments, please contact Judy Gibson of my staff at 760-431-9440 ext. 260.

Sincerely,

A handwritten signature in black ink, appearing to read "A. R. Yuen".

Acting Andrew R. Yuen
Deputy Field Supervisor

Enclosure

cc: Triss Chesney, DTSC
Nicole Moutoux, USEPA

References:

- Beyer, W. N., and C. Stafford. 1993. Survey and Evaluation of Contaminants in Earthworms and Soils derived from Dredged Material at Confined Disposal Facilities in the Great Lakes Region. *Environmental Monitoring and Assessment* 24:151-165.
- California Department of Toxic Substances Control. 1998. HERD Ecological Risk Assessment Note. HERD ERA Note Number 1.
- Linsdale, J. 1946. The California ground squirrel. A record of observations made on the Hastings Natural History Reservation. Univ. Calif. Press, Berkeley. *As cited in:* California Department of Toxic Substances Control. 1998. HERD Ecological Risk Assessment Note. HERD ERA Note Number 1.
- Sample, B. E., G. W. Suter II, J. J. Beauchamp, and R. A. Efroymson. 1999. Literature-Derived Bioaccumulation Models for Earthworm Development and Validation. *Environmental Toxicology and Chemistry*, Vol. 18, No. 9, pp. 2110-2120.
- U.S. Fish and Wildlife Service. 1993. A Biological Inventory of Marine Corps Air Station, El Toro. Prepared for U.S. Navy, Southwestern Division, Navy Facilities Engineering Command, San Diego, California. 59 pp.
- U.S. Marine Corps 1999. Base Realignment and Cleanup Plan for Marine Corps Air Station El Toro, California.
- Yosef, R. 1996. Loggerhead Shrike (*Lanius ludovicianus*). In *The Birds of North America*, No 1231 (A. Poole and F. Gills, eds.). The Academy of Natural Sciences, Philadelphia, and The American Ornithologists' Union, Washington, D. C.

PARTIAL LIST OF WILDLIFE RESOURCES ON THE PROPOSED EL TORO NATIONAL WILDLIFE REFUGE¹

Invertebrates

Fairy shrimp

Amphibians

Western Spadefoot Toad

Pacific Treefrog

California Toad

Bullfrog

Reptiles

Western Fence Lizard

Side-blotched Lizard

San Diego Horned Lizard

Western Skink

Orange-throated Whiptail

San Diego Alligator Lizard

California Whipsnake

San Diego Gopher Snake

California Kingsnake

Black-headed Snake

Western Pacific Rattlesnake

Red-diamond Rattlesnake

Birds

Spotted Towhee

California Towhee

Northern Mockingbird

California Gnatcatcher

San Diego Cactus Wren

House Finch

Anna's Hummingbird

California Quail

Wrentit

Rufous-crowned Sparrow

California Thrasher

Wilson's Warbler

Ash-throated Flycatcher

Brown-headed Cowbird

Lark Sparrow

Lesser Nighthawk

Northern Oriole

Mourning Dove

House Wren

Grasshopper Sparrow

Nuttall's Woodpecker

Osprey

Red-tailed Hawk

Sharp-shinned Hawk

Cooper's Hawk

Loggerhead Shrike

American Crow

Greater Roadrunner

Bushtit

Bewick's Wren

Common Yellowthroat

Savannah Sparrow

Western Meadowlark

Black-headed Grosbeak

Lazuli Bunting

Lesser Goldfinch

American Goldfinch

MacGillivray's Warbler

White-Crowned Sparrow

Mammals

Mule Deer

Bobcat

Coyote

Raccoon

Virginia Opposum

Audubon's cottontail

Striped Skunk

Black-tailed Jackrabbit

California Ground Squirrel

Southern Grasshopper Mouse

San Diego Pocket Mouse

Dusky-footed Woodrat

Desert Woodrat

California Deer Mouse

Western Harvest Mouse

Meadow Mouse

Pacific Kangaroo Rat

Spotted Bat

Greater Western Mastiff Bat

California Leaf-nosed Bat

Vegetation Communities

Coastal Sage Scrub

Venturan-Diegan Transitional

Sagebrush-Buckwheat Scrub

Sagebrush-Black Sage Scrub

Bush Mallow Sage Scrub

Southern Cactus Scrub

Riparian Scrub

Southern Willow Scrub

Mulefat Scrub

Southern Sycamore

Grassland

Annual

Southern coastal needlegrass

Woodland

Coast Live Oak

Mexican Elderberry

¹Based on *A Biological Inventory of Marine Corps Air Station, El Toro* by the U.S. Fish and Wildlife Service, Carlsbad Field Office, August, 1993.